

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Canceled).

Claim 2 (Previously Presented): The method according to claim 30, wherein a pulse current phase is used as said first welding process phase having a high energy input.

Claim 3 (Previously Presented): The method according to claim 30, wherein a spray-arc phase is used as said first welding process phase having a high energy input.

Claims 4-5 (Canceled).

Claim 6 (Previously Presented): The method according to claim 30, wherein the duration of the first and second welding process phases is controlled directly proportionally to the adjusted welding current (I) or an adjusted power, respectively.

Claim 7 (Previously Presented): The method according to claim 30, wherein the ratio between the first welding process phase having a high energy input and the second welding process phase having a low energy input is changed as a function of the welding current (I) or an adjusted power, respectively.

Claim 8 (Previously Presented): The method according to claim 30, wherein at least one welding parameter of the heat input into the workpiece to be worked is selected or adjusted on a welding apparatus, with the ratio between the first welding process phase having a high energy input and the second welding process phase having a low energy input being automatically determined and controlled as a function of the selected or adjusted heat input value.

Claim 9 (Previously Presented): The method according to claim 30, wherein the ratio of the cyclically alternating first and second welding process phases is determined as a function of the parameters used for the welding process.

Claim 10 (Previously Presented): The method according to claim 30, wherein the second welding process phase having a low energy input is initiated by an action selected from the group consisting of specifying the number of pulses in the pulse

current phase, predetermining a time period, and applying a trigger signal.

Claim 11 (Previously Presented): The method according to claim 30, wherein the welding process is started according to a lift-arc principle.

Claim 12 (Previously Presented): The method according to claim 30, wherein a third welding process phase having a high energy input is implemented over a defined period upon ignition of the electric arc and prior to the cyclic alternation of the at least first and second welding process phases.

Claim 13 (Previously Presented): The method according to claim 30, wherein the the welding current ( $I$ ) during the second welding process phase is lower than the welding current ( $I$ ) during the first welding process phase.

Claim 14 (Previously Presented): The method according to claim 30, wherein the wire advance speed is changed during the first and second welding process phases.

Claim 15 (Currently Amended): A welding device including a welding current source, a control device, a welding torch and a

welding wire, wherein different welding parameters are adjustable via at least one device selected from the group consisting of an input device provided on the welding apparatus, an output device provided on the welding apparatus, and a remote controller, wherein an adjustment element for the adjustment of the heat balance or heat input into the workpiece to be worked, via a cyclic combination of at least a first welding process phase and a second welding process phase, is arranged on the at least one device, wherein the first welding process phase has a high energy input and a first material transition and the second welding process phase has a low energy input and a second material transition different from the first material transition, and wherein the first welding process phase has a high current energy input phase and a base current energy phase and the second welding process phase has a short-circuit phase that starts during the base current energy phase, and wherein a ratio of the number of pulses of the first welding process phase to the number of pulses of the second welding process phase is adjusted to adjust or control the heat balance or heat input into the workpiece.

Claim 16 (Canceled).

Claim 17 (Previously Presented): The welding device according to claim 15, wherein a selection element is provided for the selection of the welding process phases to be used.

Claim 18 (Previously Presented): The welding device according to claim 15, wherein at least one display is provided for the representation of at least one of the selected welding parameters and the selected welding process phases.

Claim 19 (Previously Presented): The welding device according to claim 15, wherein a selection element is provided for the selection of the material of the workpiece to be worked.

Claim 20 (Previously Presented): The welding device according to claim 15, wherein a selection element is provided for the selection of the material of the employed welding wire.

Claim 21 (Previously Presented): The welding device according to claim 15, wherein the first welding process phase is a pulse current phase and a cyclic combination of the second welding process phase with the pulse current phase is adjustable at the at least one device.

Claim 22 (Previously Presented): The welding device according to claim 15, wherein the first welding process phase is a spray-arc phase and a cyclic combination of the second welding process phase with the spray-arc phase is adjustable at the at least one device.

Claim 23 (Previously Presented): The welding device according to claim 15, wherein an adjustment element is provided for the adjustment of the duration of the respective welding process phase.

Claim 24 (Previously Presented): The welding device according to claim 18, wherein a memory is provided for the storage of welding parameter adjustments.

Claim 25 (Previously Presented): The welding device according to claim 18, wherein the first welding process phase is a spray-arc phase and a cyclic combination of the spray-arc phase with the second welding process phase is adjustable at the at least one device.

Claim 26 (Previously Presented): The welding device according to claim 18, wherein the first welding process phase is a spray short-circuit arc welding phase and a cyclic combination

of the spray short-circuit arc welding phase with the second welding process phase is adjustable at the at least one device.

Claim 27 (Previously Presented): The welding device according to claim 18, wherein the first welding process phase is a pulse welding phase and the second welding process phase is a spray-arc welding phase and a cyclic combination of the first welding process phase with the second welding process phase is adjustable at the at least one device.

Claim 28 (Previously Presented): The welding device according to claim 18, wherein an adjustment element is provided for the adjustment of the duration of the respective welding process phase.

Claim 29 (Previously Presented): The welding device according to claim 18, wherein a memory is provided for the storage of welding parameter adjustments.

Claim 30 (Currently Amended): A method for controlling or adjusting a welding process using a melting electrode comprising the steps of:

- (a) igniting an electric arc; and
- (b) subsequently carrying out a welding process adjusted

according to several different welding parameters and controlled by a control device using a welding current source;

wherein the welding process comprises at least a first welding process phase and a second welding process phase;

wherein the first welding process phase has a high energy input and a first material transition and the second welding process phase has a low energy input ~~resulting from at least one of different material transitions and electric arc types~~ and a second material transition different from the first material transition;

wherein the first and second welding process phases are cyclically combined during the welding process to influence or control the heat input into a workpiece to be worked; and

wherein the first welding process phase has a high current energy input phase and a base current energy phase and the second welding process phase has a short-circuit phase that starts during the base current energy phase; and

~~wherein a ratio of the number of pulses of the first welding process phase to the number of pulses of the second welding process phase is adjusted to adjust or control the heat input into the workpiece.~~

Claim 31 (New): The welding device according to claim 15, wherein the second welding process phase is a cold-metal-transfer

phase.

Claim 32 (New) : The welding device according to claim 15, wherein the high energy input phase is a high current phase, the base energy phase is a base current phase, and a ratio of the number of pulses of the first welding process phase to the number of pulses of the second welding process phase is adjusted to adjust or control the heat balance or heat input into the workpiece.

Claim 33 (New) : The method according to claim 30, wherein the second welding process phase is a cold-metal-transfer phase.

Claim 34 (New) : The method according to claim 30, wherein the high energy input phase is a high current phase, the base energy phase is a base current phase, and a ratio of the number of pulses of the first welding process phase to the number of pulses of the second welding process phase is adjusted to adjust or control the heat balance or heat input into the workpiece.